

Application No. 10/783,179

2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (currently amended) A system for enabling automatic determinations of
2 information regarding a person engaging in a business transaction
3 comprising:
4 an optical member positioned between an intended location of a
5 viewer and an environment of interest to said viewer, said viewer being said
6 person engaging in said business transaction and said environment of interest
7 including an anticipated location of a second person engaging in said
8 business transaction, said optical member being a divider that is fixed in
9 position relative to said environment of interest, wherein a visible light path
10 from said viewer to objects in said environment has a substantially unitary
11 magnification, at least a portion of said optical member being wavelength-
12 selective with respect to reflectivity characteristics, such that said optical
13 member is generally transmissive with respect to visible light and is
14 substantially reflective with respect to a particular detection wavelength;
15 a detector for receiving light of said detection wavelength
16 reflected by said optical member from said viewer within said intended
17 location, said detector having a detector output that is responsive to said
18 received light; and
19 a processor connected to said detector for processing said
20 detector output, wherein optical properties along said visible light path from
21 said viewer to said objects remain independent of said processing, said
22 processor being configured to identify information regarding said viewer.
- 1 2. (cancelled)

Application No. 10/783,179

3

1 3. (cancelled)

1 4. (currently amended) The system of claim 3 wherein said processor is
2 further configured to correlate detection of ~~said~~ human eyes to stored
3 identifications of particular persons, thereby enabling said system to
4 specifically identify said viewer based on said detection of eyes of said viewer
5 ~~human eyes~~.

1 5. (original) The system of claim 1 further comprising a first light source for
2 emitting first light having said detection wavelength, said first light source
3 being directed to reflect said first light from said optical member to an
4 anticipated position of eyes of said viewer within said intended location, said
5 detector and said processor being dedicated to acquiring data that is specific
6 to said eyes.

1 6. (cancelled)

1 7. (cancelled)

1 8. (cancelled)

1 9. (original) The system of claim 5 wherein said processor is configured to
2 provide identification of said viewer, said processor having access to a
3 database of alternative viewer identifications.

Application No. 10/783,179

4

1 10. (cancelled)

1 11. (currently amended) The system of claim 5 further comprising a second
2 light source for emitting second light having said detection wavelength, said
3 second light source being directed to reflect said second light from said optical
4 member to said anticipated position of said eyes, but at an angle that is
5 distinguishable from an angle of said first light, wherein said first light has a
6 same wavelength as said second light and has a different polarization relative
7 to said second light.

1 12. (currently amended) A system for eye detection comprising:
2 a dichroic mirror which is generally transparent to visible light
3 and which reflects light having a specific wavelength range;
4 a first light source for emitting first light to impinge said dichroic
5 mirror such that said first light is reflected at a first illumination angle;
6 a second light source for emitting second light to impinge said
7 dichroic mirror such that said second light is reflected at a second illumination
8 angle greater than said first illumination angle, said first light and said second
9 light being equal with respect to wavelength and having substantially equal
10 intensity within said specific wavelength range; and
11 a detector located for receiving back-reflected light from said
12 dichroic mirror as a consequence of reflection of said first and second light
13 toward said dichroic mirror from a subject's eyes;
14 wherein said subject's eyes are detectable using the difference
15 between back-reflected said first light and back-reflected said second light.

1 13. (currently amended) The system of claim 12 wherein said first and
2 second light sources are sources of infrared (IR) light, said specific
3 wavelength range reflected by said dichroic mirror including said IR light, said
4 first and second light sources being synchronized to alternate with respect to
5 emission, such that said detector alternates in generating image information
6 as a consequence of receiving said back-reflected first light and generating
7 image information as a consequence of receiving said back-reflected second
8 light.

1 14. (currently amended) The system of claim 12 wherein said dichroic mirror
2 is a divider between anticipated positions of said subject and a second person
3 with whom said subject is interacting, said detector and said first and second
4 light sources being located outside any line of sight from said subject to said
5 divider, said detector being operatively associated with a processor to
6 determine an identity of said subject.

1 15. (original) The system of claim 12 wherein said dichroic mirror is a region
2 of a windshield of a motor vehicle, said detector and said first and second light
3 sources being embedded within a dashboard of said motor vehicle.

1 16. (original) The system of claim 15 further comprising a processor for
2 receiving data from said detector, said processor being configured to monitor
3 pre-identified conditions indicative of drowsiness of a driver of said motor
4 vehicle, said driver being said subject.

1 17. (original) The system of claim 12 wherein said dichroic mirror is a limited
2 region of a windshield of a motor vehicle, said detector and said first and
3 second light sources being outside any line of sight from a driver to said
4 windshield.

1 18. (currently amended) A system for a motor vehicle comprising:
2 a windshield with at least a portion having a coating which
3 defines a dichroic mirror that is generally transparent to visible light and
4 substantially reflective with respect to a driver-detection wavelength range;
5 a first pulsed light source for emitting timed pulses of first light
6 toward said dichroic mirror, said first pulsed light source being positioned such
7 that said first light is reflected toward an anticipated location of a face of a
8 driver of said motor vehicle;
9 a second pulsed light source for emitting timed pulses of second
10 light toward said dichroic mirror for reflection toward said anticipated location
11 to illuminate said face at an angle greater than illumination by said first light,
12 said first and second pulsed light sources being controlled to provide
13 alternating emissions of said first and second light;
14 a detector for receiving reflected light within said driver-detection
15 wavelength range following reflection from said windshield, said detector
16 being controlled to form separate frames of back-reflected said first light and
17 back-reflected said second light; and
18 a processor connected to said detector for determining Informa-
19 tion regarding said a driver of said motor vehicle on a basis of differences
20 between said frames of said back-reflected first light and said back-reflected
21 second light ~~said reflected light received at said detector.~~

1 19. (original) The system of claim 18 wherein said detector is positioned
2 outside any line of sight from said driver to said windshield.

1 20. (original) The system of claim 19 wherein said detector is embedded in a
2 dashboard of said motor vehicle.

1 21. (cancelled)

1 22. (cancelled)

1 23. (currently amended) The system of claim 18 22 wherein said first and
2 second pulsed light sources and said detector are embedded in a dashboard
3 of said motor vehicle.

1 24. (original) The system of claim 23 wherein said first and second light
2 sources are IR emitters.

1 25. (original) The system of claim 18 wherein said processor is configured to
2 monitor perceived conditions of drowsiness of said driver.

1 26. (original) The system of claim 18 wherein said processor is configured to
2 identify a specific said driver.

1 27. (currently amended) A method for use in a motorized vehicle comprising:
2 providing a windshield that is generally transparent with respect
3 to visible light and provides reflection of first light within a driver-detection
4 range of wavelengths;
5 providing a detector in a position to receive reflected said first
6 light from said windshield without obstructing vision through said windshield;
7 and
8 determining information regarding a driver of said motor vehicle
9 on a basis of data acquired via said ~~detector~~, detector, including accessing
10 data indicative of persons authorized to drive said motorized vehicle; and
11 selectively enabling said motorized vehicle on a basis of
12 whether said driver is authorized.

Application No. 10/783,179

8

1 28. (original) The method of claim 27 further comprising directing at least
2 one beam of said first light toward said windshield for reflection onto eyes of
3 said driver, each said beam originating from a source that is located so as not
4 to obstruct vision through said windshield.

1 29. (original) The method of claim 28 wherein directing each said beam is
2 implemented by embedding each said source in a dashboard of said motor
3 vehicle.

1 30. (original) The method of claim 28 wherein directing each said beam
2 includes using an infrared light source.

1 31. (original) The method of claim 27 wherein determining said information
2 regarding said driver includes monitoring drowsiness.

1 32. (original) The method of claim 27 wherein determining said information
2 includes identifying said driver.